

DYNG.P001

10/670,640

RECEIVED
CENTRAL FAX CENTER

APR 20 2007

IN THE CLAIMS

1. (Currently amended) A computer-implemented method of planning orthopaedic surgery, comprising:

- providing a library of templates representing orthopaedic prostheses;
- displaying a patient image showing anatomical features that are relevant for the orthopaedic surgery being planned;
- scaling the patient image according to user input;
- displaying over the patient image a geometrical construct comprising a plurality of interrelated shapes and lines defined by a plurality of interrelated geometric parameters;
- allowing a user to reconfigure the geometrical construct by adjusting the geometric parameters according to the anatomical features of the underlying patient image; and
- automatically selecting at least one template from the library in accordance with the geometric parameters adjusted set by the user.

2. (Original) The method of claim 1, wherein the patient image is an X-ray image.

3. (Original) The method of claim 1, wherein the geometric parameters include lengths and/or angles.

4. (Currently amended) The method of claim 1, and further comprising, before the automatically selecting:

- displaying a further patient image showing anatomical features that are relevant for the orthopaedic surgery being planned;
- scaling the further patient image according to user input;
- displaying over the further patient image a further geometrical construct defined by a plurality of interrelated further geometric parameters; and
- allowing a user to reconfigure the further geometrical construct by adjusting the further geometric parameters according to the anatomical features of the underlying further patient image;

DYNG.P001

10/670,640

and wherein ~~the automatically~~ selecting at least one template is in accordance with the geometric parameters and the further geometric parameters adjusted set by the user.

5. (Original) The method of claim 4, wherein the patient image is an anterior-posterior view and the further patient image is a medio-lateral view.
6. (Currently amended) The method of claim 1, wherein the geometric parameters are adjusted according to anatomical features of a femur so as to allow automatic selection of a template representing a femoral component of a hip prosthesis.
7. (Currently amended) The method of claim 1, wherein the geometric parameters are adjusted according to anatomical features of a pelvis so as to allow automatic selection of a template representing an acetabular component of a hip prosthesis.
8. (Currently amended) The method of claim 4, wherein the geometric parameters and the further geometric parameters are adjusted according to anatomical features of a knee joint so as to allow automatic selection of templates representing femoral and tibial components of a knee prosthesis.
9. (Currently amended) A computer-implemented method of planning orthopaedic surgery, comprising:
 - providing a library of templates representing orthopaedic implants;
 - displaying first and second patient images showing anatomical features that are relevant for the orthopaedic surgery being planned;
 - scaling the first and second patient images according to user input;
 - displaying over the first patient image a first view of a geometrical construct, the geometrical construct comprising a plurality of interrelated shapes and lines being defined by a plurality of geometric parameters interrelated in three dimensions;
 - displaying over the second patient image a second view of the geometrical construct;

DYNG.P001

10/670,640

allowing a user to reconfigure the geometrical construct according to the anatomical features of the underlying patient images, by adjusting geometric parameters adjustable in the first and second views; and

automatically selecting at least one template from the library in accordance with the geometric parameters adjusted set by the user.

10. (Original) The method of claim 9, wherein the first patient image is an anterior-posterior view and the second patient image is a medio-lateral view.

11. (Currently amended) The method of claim 9, wherein the geometric parameters are adjusted according to anatomical features of a femur so as to allow automatic selection of a template representing a femoral component of a knee prosthesis.

12. (Currently amended) The method of claim 9, wherein the geometric parameters are adjusted according to anatomical features of a tibia so as to allow automatic selection of a template representing a tibial component of a knee prosthesis.

13. (Currently amended) The method of claim 9, wherein the geometric parameters are adjusted according to anatomical features of a femur so as to allow automatic selection of a template representing a femoral component of a hip prosthesis.

14. (Currently amended) A computer-readable medium having stored thereon computer-readable computer program product carrying machine readable instructions for implementing a method of planning orthopaedic surgery, comprising:

- providing a library of templates representing orthopaedic prostheses;
- displaying a patient image showing anatomical features that are relevant for the orthopaedic surgery being planned;
- scaling the patient image according to user input;
- displaying over the patient image a geometrical construct comprising a plurality of interrelated shapes and lines defined by a plurality of interrelated geometric parameters;

DYNG.P001

10/670,640

allowing a user to reconfigure the geometrical construct by adjusting the geometric parameters according to the anatomical features of the underlying patient image; and
automatically selecting at least one template from the library in accordance with the geometric parameters adjusted set by the user.

15. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 14, wherein the patient image is an X-ray image.

16. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 14, wherein the geometric parameters include lengths and/or angles.

17. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 14, and further comprising, before ~~the~~ automatically selecting:

displaying a further patient image showing anatomical features that are relevant for the orthopaedic surgery being planned;

scaling the further patient image according to user input;

displaying over the further patient image a further geometrical construct defined by a plurality of interrelated further geometric parameters; and

allowing a user to reconfigure the further geometrical construct by adjusting the further geometric parameters according to the anatomical features of the underlying further patient image;

and wherein ~~the~~ automatically selecting at least one template is in accordance with the geometric parameters and the further geometric parameters adjusted set by the user.

18. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 17, wherein the patient image is an anterior-posterior view and the further patient image is a medio-lateral view.

19. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 14, wherein the geometric parameters are adjusted according to anatomical

DYNG.P001

10/670,640

features of a femur so as to allow automatic selection of a template representing a femoral component of a hip prosthesis.

20. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 14, wherein the geometric parameters are adjusted according to anatomical features of a pelvis so as to allow automatic selection of a template representing an acetabular component of a hip prosthesis.

21. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 17, wherein the geometric parameters and the further geometric parameters are adjusted according to anatomical features of a knee joint so as to allow automatic selection of templates representing femoral and tibial components of a knee prosthesis.

22. (Currently amended) A computer-readable medium having stored thereon ~~computer-readable computer program product~~ carrying machine-readable instructions for implementing a method of planning orthopaedic surgery, comprising:

- providing a library of templates representing orthopaedic implants;
- displaying first and second patient images showing anatomical features that are relevant for the orthopaedic surgery being planned;
- scaling the first and second patient images according to user input;
- displaying over the first patient image a first view of a geometrical construct, the geometrical construct comprising a plurality of interrelated shapes and lines being defined by a plurality of geometric parameters interrelated in three dimensions;
- displaying over the second patient image a second view of the geometrical construct;
- allowing a user to reconfigure the geometrical construct according to the anatomical features of the underlying patient images, by adjusting geometric parameters adjustable in the first and second views; and
- automatically selecting at least one template from the library in accordance with the geometric parameters ~~set~~ adjusted by the user.

DYNG.P001

10/670,640

23. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 22, wherein the first patient image is an anterior-posterior view and the second patient image is a medio-lateral view.
24. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 22, wherein the geometric parameters are adjusted according to anatomical features of a femur so as to allow automatic selection of a template representing a femoral component of a knee prosthesis.
25. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 22, wherein the geometric parameters are adjusted according to anatomical features of a tibia so as to allow automatic selection of a template representing a tibial component of a knee prosthesis.
26. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 22, wherein the geometric parameters are adjusted according to anatomical features of a femur so as to allow automatic selection of a template representing a femoral component of a hip prosthesis.
27. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 14 or claim 22, wherein the computer-readable ~~machine-readable~~ instructions are stored in a recording medium.
28. (Currently amended) The computer-readable medium ~~computer program product~~ of claim 14 or claim 22, wherein the computer-readable ~~machine-readable~~ instructions are conveyed on a transmission medium.
29. (Currently amended) A computer system for implementing a method of planning orthopaedic surgery, comprising:

DYNG.P001

10/670,640

memory in which is stored:

- a library of templates representing orthopaedic prostheses; and
- patient images showing anatomical features that are relevant for the orthopaedic surgery being planned;
- a display device operable to display one of the patient images; and
- a processor operable to:
 - scale the displayed patient image according to user input;
 - display over the patient image a geometrical construct comprising a plurality of interrelated shapes and lines defined by a plurality of interrelated geometric parameters;
 - allow a user to reconfigure the geometrical construct by adjusting the geometric parameters according to the anatomical features of the displayed patient image; and
 - automatically select at least one template from the library in accordance with the geometric parameters set-adjusted by the user.

30. (Currently amended) The computer system of claim 29, wherein the display device is further operable to display a further one of the patient images; and

the processor is further operable to:

- scale the displayed further patient image according to user input;
- display over the further patient image a further geometrical construct defined by a plurality of interrelated further geometric parameters;
- allow a user to reconfigure the further geometrical construct by adjusting the further geometric parameters according to the anatomical features of the displayed further patient image; and
- automatically select at least one template from the library in accordance with the geometric parameters and the further geometric parameters set-adjusted by the user.

DYNG.P001

10/670,640

31. (Currently amended) A computer system for implementing a method of planning orthopaedic surgery, comprising:

memory in which is stored:

a library of templates representing orthopaedic prostheses; and

patient images showing anatomical features that are relevant for the orthopaedic surgery being planned;

a display device operable to display a first and a second of the patient images; and

a processor operable to:

scale the displayed patient images according to user input;

display over the first patient image a first view of a geometrical construct, the geometrical construct comprising a plurality of interrelated shapes and lines being defined by a plurality of geometric parameters interrelated in three dimensions;

display over the second patient image a second view of the geometrical construct;

allow a user to reconfigure the geometrical construct according to the anatomical features of the underlying patient images, by adjusting geometric parameters adjustable in the first and second views; and

automatically select at least one template from the library in accordance with the geometric parameters set-adjusted by the user.

32. (Original) The computer system of claim 29 or claim 31, wherein the library of templates is stored such that it can be accessed by the processor via the Internet.

33. (Original) The computer system of claim 29 or claim 31, wherein the patient images are stored in an archive comprised within a Picture Archiving and Communication System.